

Utah's All Payer Claims Dataset: A vital resource for health reform

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#### Overview



- History
  - Introduction to Utah
  - Office of Health Care Statistics
- All Payer Claims Database
  - History
  - Data issues
  - Analytic capabilities
- On going APCD Projects



## **BACKGROUND & HISTORY**

#### Facts about Utah



- 2.75 million residents
  - 1.85 commercial insured
  - 300k each Medicaid, Medicare, Uninsured
- 70% live along the Wasatch Front
- Youngest average age & highest birth rate
- Among top 5 in state health rankings
- 5 health plans cover the majority of the population





#### **Utah Health Data Authority Act**

26-33a-104 – Established the Utah Health Data Committee



The purpose of the committee is to direct a statewide effort to collect, analyze, and distribute health care data to facilitate the promotion and accessibility of quality and cost-effective health care and also to facilitate interaction among those with concern for health care issues. (Adopted 1990)

#### Health Data Committee



- 14 member board of stakeholders
  - Payers
  - Public health
  - Providers (doctors & hospitals)
  - Business
  - Consumers
- Meets bi-monthly to set priorities
- Granted rule making authority



#### Office of Health Care Statistics



- 9 staff housed in Utah Dept. of Health
- Facility databases
  - Inpatient, ED, and ambulatory surgery
- HEDIS & CAHPS
- All Payer Claims Database
- 10 major reports per year
- Ad-hoc analysis and projects





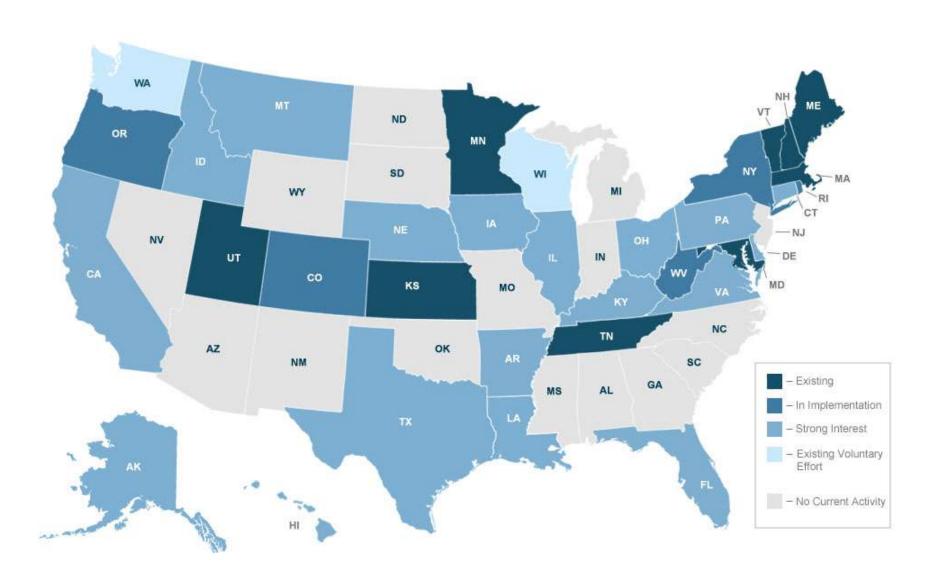
## **UTAH APCD: HISTORY**

#### What is an APCD?



- Database of health plan "modified outbound 837" claim data
  - Enrollment
  - Pharmacy
  - Medical
- Organized into care episodes across time and care settings
- Includes diagnosis & payment information

## State Progress Map



#### **Utah Timeline**



- 2006
  - Initial plan for Utah's APCD
  - \$1.2 million cost
  - Failed in legislative vote
- 2007
  - Bill to <u>plan</u> an APCD
  - No cost
  - Creation of task force to write guideline document

## APCD Data Plan (HB09)



- Report on statewide costs for episodes of care
  - Made identified data necessary
- Standards for data submission
  - Modified outbound 837
  - Use existing Utah Health Information Network
- Modified Utah Health Data Authority Act



- 2008
  - APCD building block
  - Funded through health reform
  - Meetings with health plan technical staff
  - Policy and legal planning
  - Administrative rule draft
  - RFPs for data management and analysis vendors

#### **APCD Vendors**











Spectre Enterprises, Inc



- Provides episode of care grouping software (CRGs)
- No cost to state entities
- On-going support and collaboration





- RP Navigator software
- Web-based tool for APCD analysis
- Easily build tables by any variable in the database
- Build and save queries
- Efficient use of resources





- X-12 translation services
- Data submission services
- Standards maintenance





- Linking software
- Key to building episodes

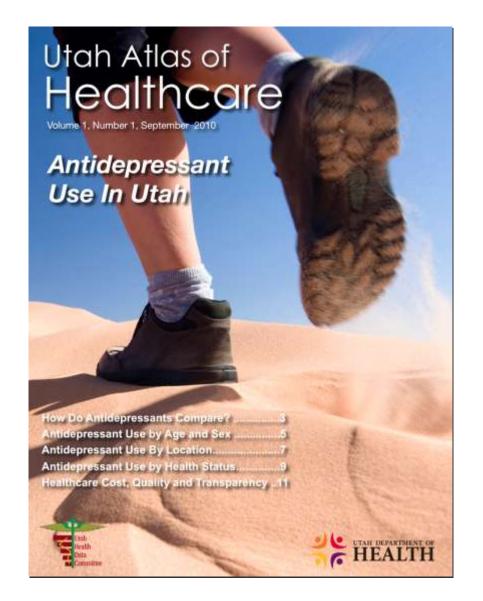


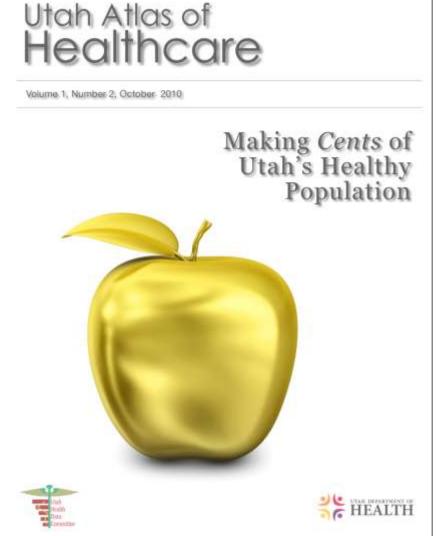


- 2009
  - Rule in effect
  - Testing files & submission processes
  - LIVE: September 13
  - 4 plans in production
  - Preliminary analyses
  - Reporting efforts



- 2010
  - Initial presentations to the Legislature
  - First two APCD reports
  - Outreach to data partners
    - Beacon Community Grant
    - Utah Health Insurance Exchange







- 2011
  - House Bill 128
    - Statewide quality measures
    - Preparing for clinic-level reporting
  - Medicaid data a big challenge
  - Medicare data an even bigger challenge

### APCD HEDIS measures



|                           | HbA1c<br>Screenings Screenings for Diabe |     | Nephrophathy<br>Screening | Breast<br>Cancer<br>Screening | 5+ Well-<br>Child Visits |  |  |
|---------------------------|--|-----|---------------------------|-------------------------------|--------------------------|--|--|
| APCD<br>Average           | 59%                                      | 46% | 30%                       | 43%                           | 50%                      |  |  |
| State<br>HEDIS<br>Average | 83%                                      | 73% | 70%                       | 60%                           | 19%                      |  |  |

#### APCD Awards 2011







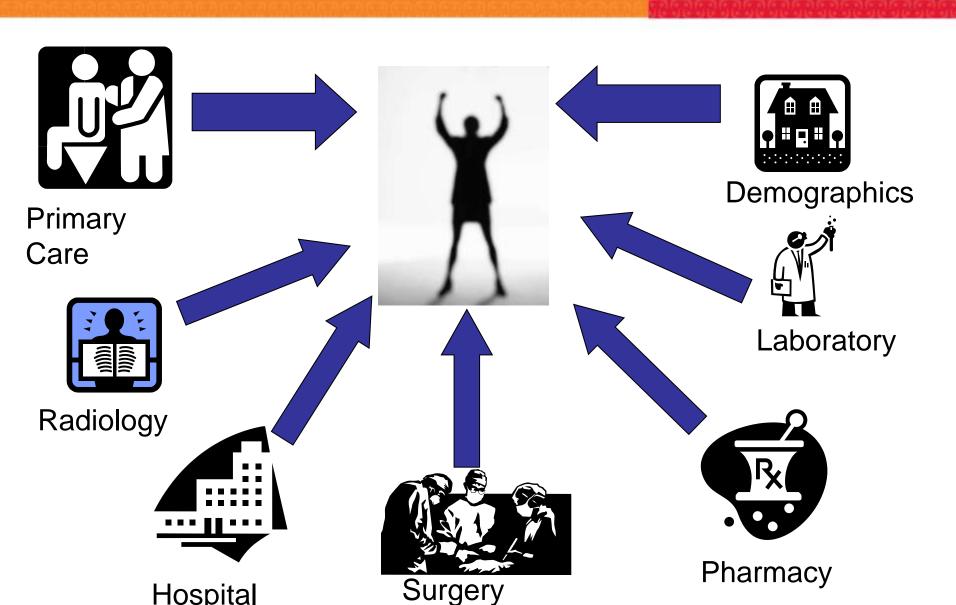
#### **Utah's APCD Covered Lives**



- 19 plans engaged with the APCD:
  - 8 in full production
  - 2 enrollment and pharmacy only (Medicaid)
  - 6 enrollment only
  - 3 in testing phase (no data)
- 2.1 million covered lives representing 93% of the commercially insured market

## Creating a Unique Person





## **APD Architecture**



Secure Connection Secure Data Staging APD / Reporting Payer Data Secure Connection De-identified UHIN Reporting to HDC Policy for Data Release to Other APD Secondary Data Consumers Established by the FTP Secure Warehouse & Flat File HDC data uses subcommittee Submission Developmental Server Option De-identified data Payer Data OHCS Web Server APD Tertiary Data Modified X12 837s **UHIN Portal** Warehouse · Pharmacy Claims X12, Pharmacy, Enrollment Data De-identified data for Episode Enrollment Translator Grouper, and Querying Tools (Requires no more than de-Identified Unique Identifier, DOB, Sex. ZIP) Paid 837s containing APD Primary Data 835 data - similar to Warehouse (Secure) 3M CRG Software / Care what happens when Advantage (RPNavigator) the 837 is forwarded Record Linkage/Grouping to a secondary payer, including denied Encrypted Identified Data claims. Enrollment Data

## 3 Levels of Data Security



- Physical
- Electronic
- Legal

# Data Security Physical



- Data housed in locked & monitored server room at state Capitol
- Servers are limited access with no means of offloading data
- Server moved under armed security

## Data Security Electronic



- Submission of encrypted and compressed files
  - Secure FTP
  - SSL with 256 bit encryption
- PHI protected with PGP algorithm's 2048 bit key

# Data Security Legal

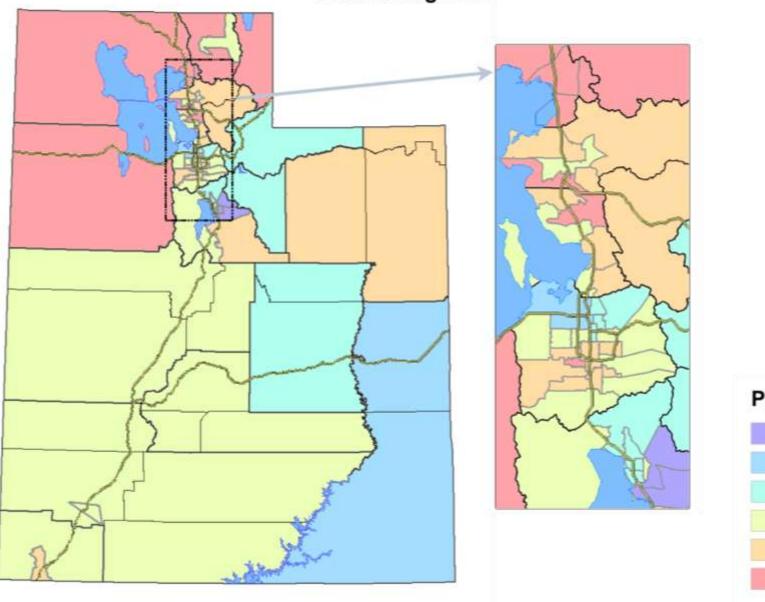


- Limited number of people with access to primary data warehouse
- Signed confidentiality agreements with termination and criminal charges
- HIPAA laws regarding PHI

|    | Disease                               | Percent of Total<br>Health Care Costs | Percent of<br>Total<br>Population<br>Studied | No. of People<br>w/Disease |
|----|---------------------------------------|---------------------------------------|--|----------------------------|
| 1  | Diabetes                              | 11.07 %                               | 3.31 %                                       | 31,213                     |
| 2  | Hypertension                          | 5.94 %                                | 4.22 %                                       | 39,767                     |
| 3  | Asthma                                | 4.62 %                                | 2.50 %                                       | 23,606                     |
| 4  | Coronary Artery Disease               | 3.27 %                                | 0.60 %                                       | 5,680                      |
| 5  | Breast Cancer                         | 1.89 %                                | 0.21 %                                       | 2,007                      |
| 6  | Depression                            | 1.69 %                                | 2.48 %                                       | 23,382                     |
| 7  | End Stage Renal Disease               | 1.69 %                                | 0.13 %                                       | 1,237                      |
| 8  | Cerebrovascular Accident<br>(Stroke)  | 1.51 %                                | 0.15 %                                       | 1,377                      |
| 9  | Congestive Heart Failure              | 0.97 %                                | 0.12 %                                       | 1,106                      |
| 10 | Chronic Obstructive Pulmonary Disease | 0.72 %                                | 0.12 %                                       | 1,116                      |

|    | Therapeutic Class  | Total Cost   | Utilizing<br>Members | Cost Per<br>Utilizing<br>Member | Average<br>Cost<br>Per<br>Script | Percent<br>Generic |
|----|--|--------------|----------------------|---------------------------------|----------------------------------|--------------------|
| 1  | ULCER DRUGS  | \$22,198,987 | 71,613               | \$1,136                         | \$79                             | 76 %               |
| 2  | ANTIDIABETICS  | \$19,249,166 | 33,623               | \$1,445                         | \$87                             | 53 %               |
| 3  | ANTIDEPRESSANTS  | \$18,338,790 | 94,876               | \$531                           | \$35                             | 80 %               |
| 4  | ANTIHYPERLIPIDEMICS  | \$15,201,559 | 62,289               | \$658                           | \$47                             | 63 %               |
| 5  | ANTIASTHMATIC AND<br>BRONCHODILATOR<br>AGENTS                | \$14,187,136 | 52,501               | \$1,360                         | \$81                             | 8 %                |
| 6  | ANALGESICS - OPIOID  | \$11,508,735 | 129,968              | \$469                           | \$26                             | 96 %               |
| 7  | ADHD / ANTI<br>NARCOLEPSY /<br>ANTI-OBESITY /<br>ANOREXIANTS | \$11,245,893 | 29,251               | \$1,187                         | \$84                             | 38 %               |
| 8  | ANTICONVULSANTS  | \$11,111,165 | 34,016               | \$990                           | \$63                             | 86 %               |
| 9  | DERMATOLOGICALS  | \$10,904,253 | 99,052               | \$864                           | \$57                             | 69 %               |
| 10 | ANTIPSYCHOTICS /<br>ANTIMANIC AGENTS                         | \$9,880,361  | 10,620               | \$3,018                         | \$188                            | 31 %               |

#### Prevalence of Antidepressant Use by Small Area (2009) Females Ages 18-64





## 3M Clinical Risk Groups



- A clinical model that assigns individuals to a single risk group
- CRG classification is based on clinical history and demographics
- Projects the amount of healthcare resources the individual will consume in the future
- Nine groups each with its own severity levels



|   | Status   | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|---|--|---|---|---|---|---|---|---|
| 1 | Healthy (Routine &<br>Preventive Care)           |   |   |   |   |   |   |   |
| 2 | One or More Significant<br>Acute Diseases        |   |   |   |   |   |   |   |
| 3 | One Minor Chronic<br>Disease                     |   |   |   |   |   |   |   |
| 4 | Multiple Minor Chronic<br>Diseases               |   |   |   |   |   |   |   |
| 5 | One Significant Chronic Disease                  |   |   |   |   |   |   |   |
| 6 | Two Significant Chronic Diseases                 |   |   |   |   |   |   |   |
| 7 | Three or More<br>Significant Chronic<br>Diseases |   |   |   |   |   |   |   |
| 8 | Complicated<br>Malignancies                      |   |   |   |   |   |   |   |
| 9 | Catastrophic Conditions                          |   | 5 |   |   |   |   |   |

### Each person is put into one of the blue boxes



|        |  |   | _ | _ |          |   |   |   |  |  |  |
|--------|--|---|---|---|----------|---|---|---|--|--|--|
| Status |  | 0 | 1 | 2 | 3        | 4 | 5 | 6 |  |  |  |
| 1      | Healthy (Routine & Preventive Care)              |   |   |   |          |   |   |   |  |  |  |
| 2      | One or More Significant<br>Acute Diseases        |   |   |   |          |   |   |   |  |  |  |
| 3      | One Minor Chronic<br>Disease                     |   |   |   |          |   |   |   |  |  |  |
| 4      | Multiple Minor Chronic<br>Diseases               |   |   |   | <b>V</b> |   |   |   |  |  |  |
| 5      | One Significant Chronic Disease                  |   |   |   |          |   |   |   |  |  |  |
| 6      | Two Significant Chronic Diseases                 |   |   |   |          |   |   |   |  |  |  |
| 7      | Three or More<br>Significant Chronic<br>Diseases |   |   |   |          |   |   |   |  |  |  |
| 8      | Complicated<br>Malignancies                      |   |   |   |          |   |   |   |  |  |  |
| 9      | Catastrophic Conditions                          |   |   |   |          |   |   | 2 |  |  |  |

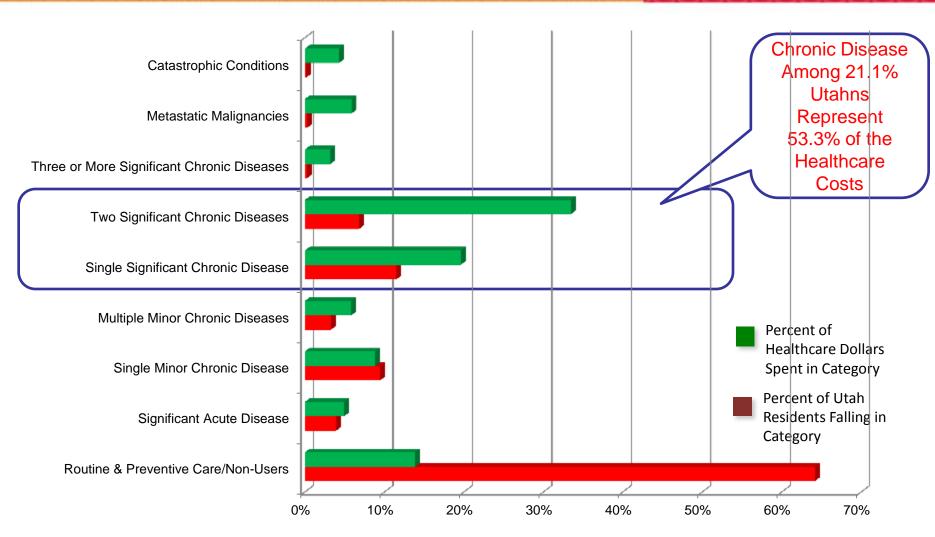
#### Uses of CRGs



- Classification into CRGs can be used to examine the data categorically
- CRGs provide a framework to understand how healthcare resources are allocated
- Can be used to risk adjust within an exchange

### Where are Utah Healthcare Dollars Going?



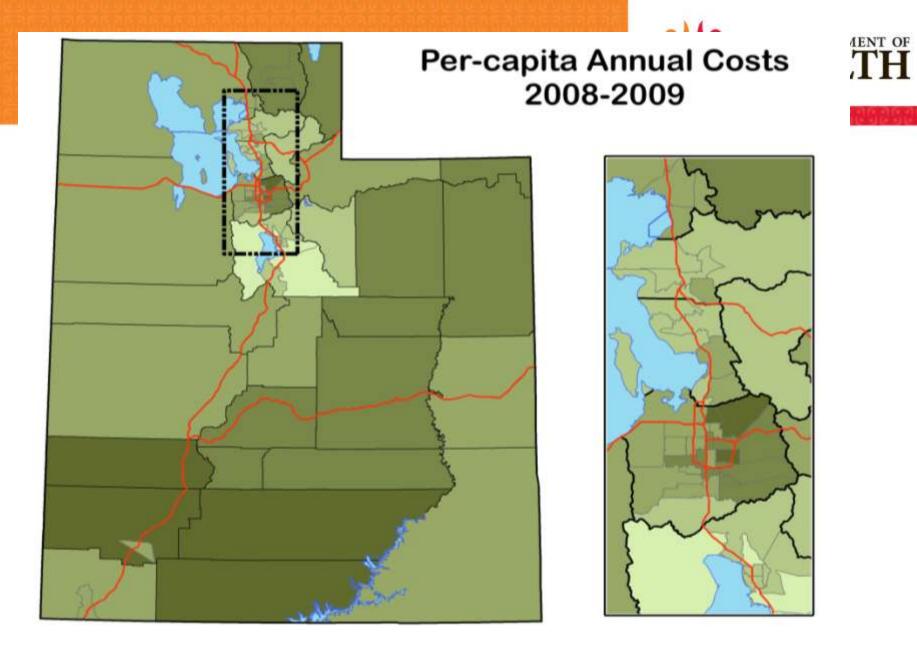


#### Diabetes EOCs, BOI, and costs

| r          | Status  | 0 | In the second                           | 2   | 3   | 1  |  | EALT                                     | H      |
|------------|---|---|---|---|---|--|--|--|--------|
| 1          | Healthy (Routine & Preventive Care)           |   | 100000                                  | 2   |   | 5)//                                       |  |  | MALES. |
| 2          | One or More Significant Acute<br>Diseases     |   |   |   |   |  |  |  |        |
| 3          | One Minor Chronic Disease                     |   |   |   |   | 6  |  |  |        |
| 4          | Multiple Minor Chronic Diseases               | Т |   |   |   |  |  |  |        |
| 5          | One Significant Chronic Disease               | Ī | 2,469<br>1.19<br>\$413.04<br>\$200.71   | 3,004<br>2.85<br>\$1,796.41<br>\$1,208.93 | 399<br>6.23<br>\$1,611.19<br>\$993.56     |  | 65<br>11.87<br>\$1,698.58<br>\$954.27    |  |        |
| 6          | Two Significant Chronic Diseases              |   | 5,232<br>3.18<br>\$738.33<br>\$1,199.51 | 2,332<br>5.94<br>\$1,166.49<br>\$1,694.12 | 1,674<br>8.65<br>\$1,849.67<br>\$1,918.83 | 1,000<br>12.83<br>\$2,676.39<br>\$2,367.63 | 450<br>18.72<br>\$3,528.56<br>\$2,971.76 | 25<br>22.93<br>\$10,708.80<br>\$1,624.39 |        |
| 7          | Three or More Significant<br>Chronic Diseases |   | 488<br>5.81<br>\$1,162.75<br>\$1,795.63 | 294<br>10.08<br>\$2,543.77<br>\$1,987.92  | 474<br>17.37<br>\$3,673.16<br>\$2,904.38  | 122<br>21.72<br>\$6,139.63<br>\$3,849.10   | 74<br>32.62<br>\$6,777.25<br>\$3,339.96  | 15<br>35.88<br>\$6,620.00<br>\$2,877.69  |        |
| ္တင္သုသျား | Complicated Malignancies                      |   |   | 48<br>15.16<br>\$1,172.17<br>\$1,551.20   | 88<br>27.30<br>\$1,984.40<br>\$1,618.31   | 81<br>47.04<br>\$4,935.37<br>\$1,354.12    | 30<br>57.34<br>\$6,950.64<br>\$1,797.16  |  |        |
| ШÃО        | Catastrophic Conditions                       |   | 6<br>4.31<br>\$1,728.91<br>\$595.23     | 42<br>11.58<br>\$2,017.44<br>\$1,844.61   | 26<br>27.38<br>\$5,112.89                 | 20<br>28.75<br>\$22,632.54                 | 38<br>46.68<br>\$9,901.68<br>\$1,573.31  | 31<br>63.79<br>\$12,043.71<br>\$2,453.36 |        |

Number of Episodes Evaluated
Burdon Of Illness
EOC Cost (Medical)\*
EOC Cost (Rx) \*

<sup>\*</sup> Cost for just the diabetes portion of care – medical and pharmaceutical (does not include co-payments)

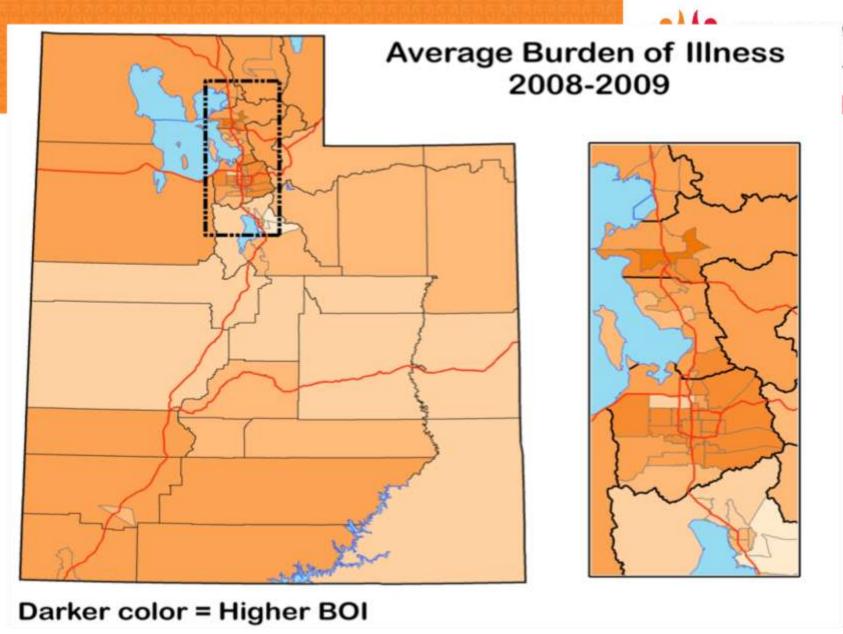


Darker color = Higher

### Burden of Illness (BOI)



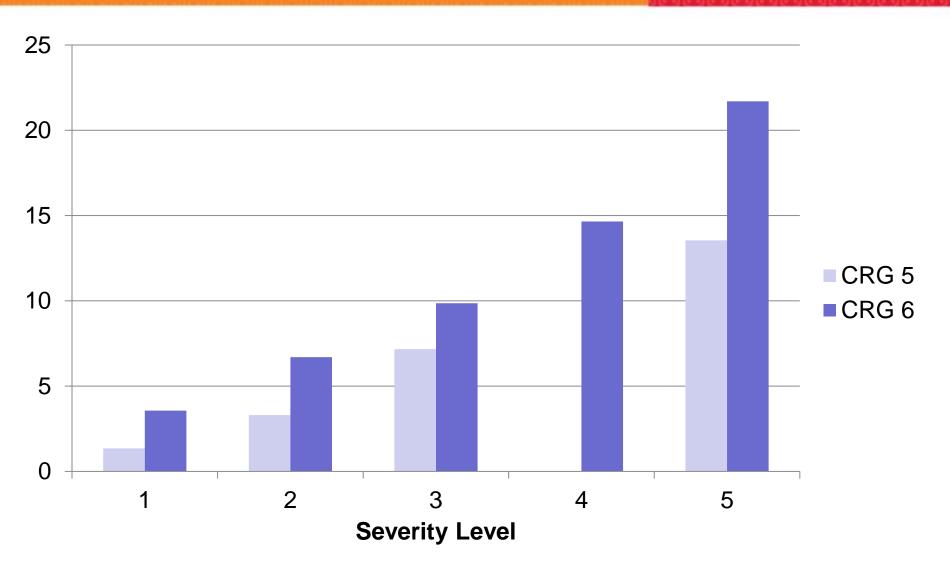
- A single number assigned to each person
- Represents the disease burden as a continuous variable from 0 to ∞
- BOI is adjusted by age and sex
- Average BOI in the Utah population: 1.01
- Measure has been verified by analyses by the Society of Actuaries



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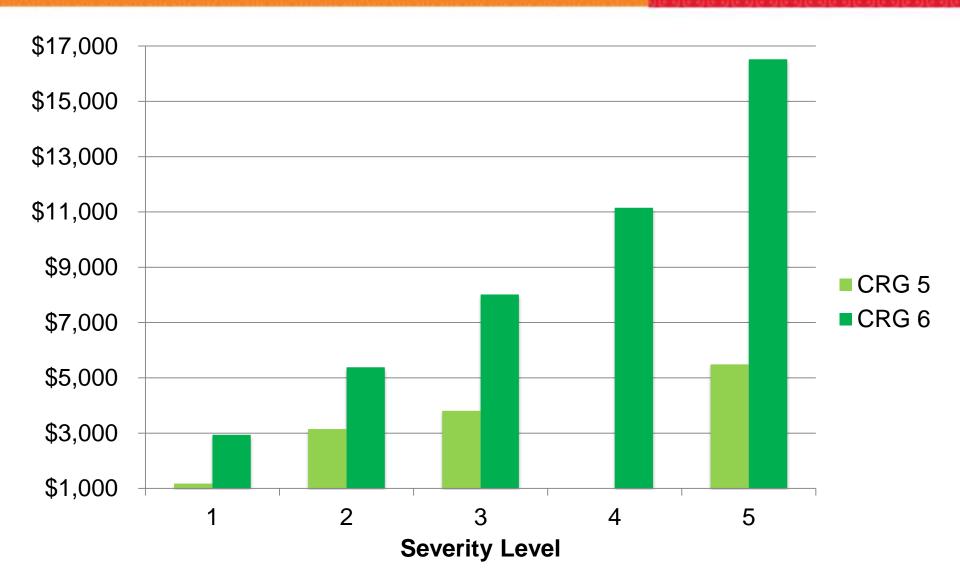
# Diabetes: BOI by CRG & Severity





## Diabetes: Episode Cost by CRG & Severity









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Health Costs

Health Costs

FAQs and Methodology Resource

Contact Us

Sunday, March 13, 2011

Pricing of Health Care Services

- A Deeper Explanation

Health Costs for Insured Patients

Health Costs for Uninsured Patients

#### **Detailed estimates for Arthroscopic Knee Surgery (outpatient)**

Procedure: Arthroscopic Knee Surgery (outpatient)

Insurance Plan: Anthem - NH, Health Maintenance Organization (HMO)

Within: 20 miles of 03301

Deductible and Coinsurance Amount: \$500.00 / 10%

| Lead Provider<br>Name                    | Estimate of<br>What you Will<br>Pay | Estimate of What<br>Insurance Will Pay | Estimate of<br>Combined<br>Payments | Precision of the<br>Cost Estimate | Typical<br>Patient<br>Complexity | Contact Info                                     |
|--|-------------------------------------|--|-------------------------------------|-----------------------------------|----------------------------------|--|
| CONCORD<br>AMBULATORY<br>SURGERY CENTER  | \$769                               | \$2429                                 | \$3198                              | HIGH                              | MEDIUM                           |  |
| CAPITAL<br>ORTHOPAEDIC<br>SURGERY CENTER | \$815                               | \$2844                                 | \$3659                              | нісн                              | LOW                              |  |
| DARTMOUTH<br>HITCHCOCK SOUTH             | \$841                               | \$3077                                 | \$3918                              | MEDIUM                            | MEDIUM                           | DARTMOUTH<br>HITCHCOCK SOUTH<br>800.238.0505     |
| LAKES REGION<br>GENERAL HOSPITAL         | \$897                               | \$3574                                 | \$4471                              | LOW                               | HIGH                             | LAKES REGION GENERAL HOSPITAL 603.527.7171       |
| SPEARE MEMORIAL<br>HOSPITAL              | \$949                               | \$4046                                 | \$4995                              | HIGH                              | LOW                              | SPEARE MEMORIAL<br>HOSPITAL<br>603.536.1120      |
| FRANKLIN REGIONAL<br>HOSPITAL            | \$975                               | \$4276                                 | \$5251                              | нідн                              | LOW                              | FRANKLIN<br>REGIONAL<br>HOSPITAL<br>603.527.7171 |
| CATHOLIC MEDICAL<br>CENTER               | \$980                               | \$4328                                 | \$5308                              | LOW                               | LOW                              | CATHOLIC MEDICAL<br>CENTER<br>800.437.9666       |

Lead Provider This is the single entity that all health care procedure costs are assigned to in HealthCost. Even when separate payments are made to a physician and a hospital, the estimated payment amount is the combined total amount paid. When a Lead Provider is not listed in the results, we do not have sufficient data to calculate an estimate.

Estimate of What You Will Pay - This figure represents out of pocket payments you may be required to pay based upon your health coverage, your deductible, and your coinsurance. Deductibles and co-insurance are paid after the service is provided.

Estimate of What Insurance Will Pay - This figure represents the payment made by your insurance company to the health care provider.

Estimate of Combined Payments - This figure represents the combined amount that the health care provider receives from you as a patient and from your insurance company.

Precision of the Cost Estimate – This is an indication of how accurate, based upon statistical analysis and historical experience, the cost estimate is. A lower precision means that there is a greater likelihood that the amount of your bill will differ from the cost estimate. A high precision means that the amount of your bill will have a greater likelihood of being close to the cost estimate. Some estimates are more precise than others because the amount charged for the procedure across all patients is more uniform. When the amount charged for a procedure or services across all patients varies considerably, it is more difficult to estimate an expected cost for the procedure or service, and as result, the cost estimate is less precise.

Typical Patient Complexity – This is an indication of how healthy or sick the patients are that are seen for this particular procedure at this health care provider. Some health care providers see sicker patients, or patients that are more complex, and thus there may be more costs associated with treating them.







Thank you!

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www.apcdcouncil.org